

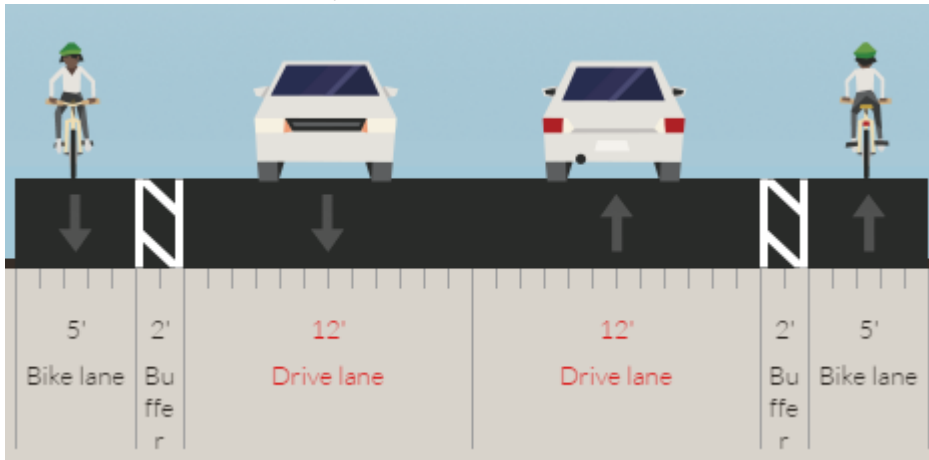
W Kentucky St from 8th St to S 12th St

Project Purpose, Scope, Approach, Budget & Timeline

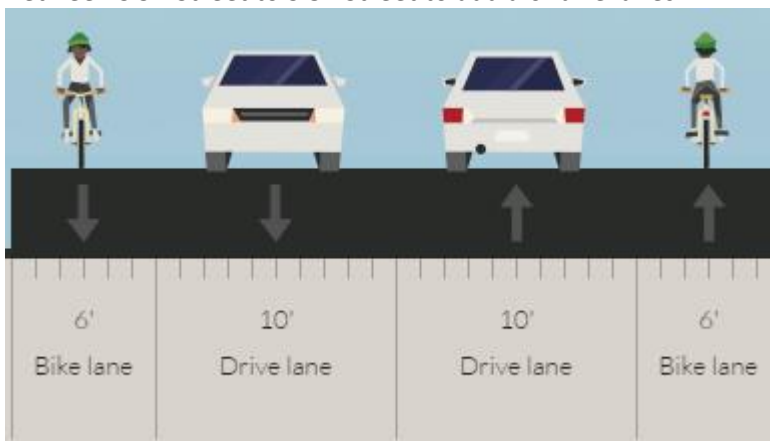
The purpose of this project is to improve the bicycle network along W Kentucky Street between 8th Street and S 12th Street by adding a 6' bike lane between S 8th St and S 9th St, and removing the center turn lane travel lanes between S 9th St and S 12th St. to provide a 2' buffer and 5' bike lane. The reconfigured cross-section improves safety for cyclists along the route and reduces the average vehicle speed within acceptable ranges of the posted speed limit. The excess pavement from the removed center lane will be used to provide an additional buffer for cyclists by separating the bicycles from the vehicle travel lanes. This section of bike lane will improve connectivity by providing a link for cyclists between the 15th St bike lane and the W Kentucky St Bike lane.

The changes to W Kentucky are as follows:

1. Between S 12th St to S 9th St, remove the center turn lane to accommodate a 2' buffer and 5' bike lane.



2. Between S 9th Street to S 8th Street to add a 6' bike lanes.



To rate the success of this proposed project, a series of measures have been established that will provide a clear comparison between the pre-project and post-project traffic characteristics. The methods used to measure the effectiveness of this project have been detailed in this document and includes the following:

1. Collision study to determine the change in number and type of collisions
2. Speed studies to determine changes in prevailing speeds and percentage of drivers that are "excessive speeders" (10 mph or more above the posted speed limit)
3. Traffic counts and travel time studies to determine change in traffic volumes, lane utilization and traffic delays
4. Bike counts to determine change in ridership

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Budget:

This project will be funded thru Mayor Greg Fischer's Urban Bike Network allocation established in the 2016 Fiscal Year budget. The design and engineering for this project is to be provided by the Departments of Public Works & Assets with assistance from Gresham, Smith & Partners.

Measurements of Effectiveness

1. Collision Reductions:

To determine the effectiveness of the roadway treatments in improving the collision rates, a comparison of the collision types occurring before and after the improvements will be conducted. The collision history for the last three years will be gathered through the Kentucky State Police's Collision Data website. Queries will be conducted in accordance with the *Collision Reporting Guideline* and the data obtained will be ranked by Manner of Collision and Directional Analysis. Each type of collision will then be converted to a specific collision type per vehicle mile traveled using the current traffic volumes for this section of roadway.

Upon completion of the road reconfiguration project, collisions within the boundary of the project will be evaluated monthly for the first 6 months in order to identify any immediate deficiencies. After the first 6 months, collisions will then be evaluated every 6 months for 3 years. Once the three years of collision history has been gathered, a comparison can be made between the pre- and post-project collision rates to determine effectiveness.

The road reconfiguration should show improvements in the number of sideswipe (same & opposite direction) and single vehicle collisions in which the vehicle left the roadway and collided with a fixed object. There should also be modest reductions in the rate of opposing left turn and rear end collisions since the total number of conflicts will be reduced. There should also be no increase in the number of cyclist and pedestrian related collisions despite an increase in the total number of users.

Collision Analysis:

The collision history for this section of road was obtained through the Kentucky State Police's public crash analysis website. A query was conducted using the values listed in the below collision report spreadsheet and the manner of collision was analyzed to determine the type of counter measure that would be best suited to reduce or eliminate each collision. For the period between 1/1/2012 and 8/1/2015, there was one reported collisions on W Kentucky St between S 8th St and S 12th St. However, the mile points for this section of road as recorded by the KYTC database does not correlate with the mile points used by Louisville Metro Police for W Kentucky St. An additional search of the KSP collision database may need to be completed in order to determine the number of correctable accidents for this project but because the area is a relatively short segment, impacts to collisions will be nominal.

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Collision History for:						76%	
W Kentucky St between S 8th St and S 12th St	2015	2014	2013	2012	TOTAL	CMF	Reduction
Total Collisions	0	1	0	0	1	1	0
Injury	0	3	0	0	3	2	1
Fatality	0	0	0	0	0	0	0
Manner of Collision							
ANGLE	0	0	0	0	0	0	0
BACKING	0	0	0	0	0	0	0
HEAD ON	0	1	0	0	1	1	0
OPPOSING LEFT TURN	0	0	0	0	0	0	0
REAR END	0	0	0	0	0	0	0
REAR TO REAR	0	0	0	0	0	0	0
SIDESWIPE-OPPOSITE DIRECTION	0	0	0	0	0	0	0
SIDESWIPE-SAME DIRECTION	0	0	0	0	0	0	0
SINGLE VEHICLE	0	0	0	0	0	0	0
INTERSECTION-KARS	0	0	0	0	0	0	0
OVERTAKING-KARS	0	0	0	0	0	0	0
RIGHT TURN AWAY FROM APPROACHING VEHICLE	0	0	0	0	0	0	0
RIGHT TURN INTO APPROACHING VEHICLE-KARS	0	0	0	0	0	0	0
SIDESWIPE-KARS	0	0	0	0	0	0	0

Cost Estimate: TBD

2. Traffic Volume, Speed & Travel Time:

To determine the effectiveness of the roadway treatments and its impact to the traffic flow and volumes, several pre- and post-project traffic counts and travel time studies will be conducted. Comparisons will be made between the before and after counts to determine the total change in traffic volume, the change in the average and 85th percentile speed, and the change in the travel time and delay for vehicles utilizing this section of road. The data gathered during the pre-project surveys will also be used to calibrate the traffic simulation models for the project corridor.

A travel time and delay study will be conducted in accordance with attached *Travel Time Study Guidelines*, and will be used to determine the impact the road reconfiguration has on the quality of traffic movement along the route.

Pre-project traffic counts -

Count 1:

Location: Travel lanes at W. Kentucky Street between 11th and 9th streets.

Equipment: NC-300 Traffic Analyzer

Date: 9/9/2015

Data: This will be a traffic volume and speed count for 24 hours, with one counter in each lane of travel. This count will establish an Average Daily Traffic volume in each lane and the average and 85th percentile speeds.

Results:

East bound travel lane:

1,565 **ADT** with 29.17 **mph** 85th percentile

West bound travel lane:

1,786 **ADT** with 31.98 **mph** 85th percentile

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Bike lanes:

To determine the effectiveness of the bike lanes, counts will be conducted before and after the project. This before and after comparison will demonstrate the change in ridership associated with the dedicated bike lanes.

Mio-Vision or pneumatic tube counters will be placed at several locations to gather data on the total number of cyclists traveling in each direction in the corridor. Mio-Vision will be placed for 48 hours at each location while pneumatic tube counters will be placed at each location for about 1 week and during more favorable weather conditions. Additional bicycle counts can also be taken as part of the Mio-Vision turning movement counts conducted to determine traffic volumes at the intersections.

Pre-project bicycle counts -

Count 1:

Location: W. Kentucky Street between 11th and 9th streets.

Equipment: Mio-Vision

Date: 9/1/2015

Results:

West bound travel lane: 9

East bound travel lane: 16

Post-project counts shall be conducted at the above locations several months after the completion of the project to compare the change in ridership along this section of road. Annual counts will be conducted and the data extracted will be used to establish trends in ridership along S 6th St. Data extracted from future counts will also be used in extrapolating the latent demand that may exist in other areas of the city to aid in the design of future road reconfiguration projects.